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LIVING-STONE

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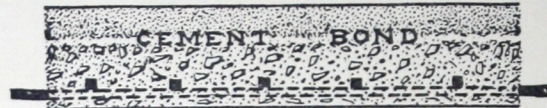
LIVING-STONE CONCRETE BOND
LITHO-TEX CONCRETE HARDENER

THE LIVING-STONE CO.
BALTIMORE, MARYLAND

LIVING-STONE

CONCRETE can be
Bonded
LIVING-STONE
HAS withstood
The "Test of
Time."

THE LIVING-STONE CO.
BALTIMORE, MARYLAND



OUR TRADE MARK SINCE 1905.

**“WHEN YOU GAMBLE WITH CONCRETE
THE CARDS ARE STACKED AGAINST YOU”**

Copyright 1917 by The Living-Stone Company.

Trade mark and Living-Stone process fully protected by U. S. Patent.

LIVING-STONE— is a non-acid method of bonding Cement, Concrete Hardener, and Granolithic Top Finish to Concrete Floors.

LIVING-STONE bonds new concrete to concrete that has already set; it makes a positive and an impermeable bond.



Court House, Prescott, Arizona. Wm. N. Bowman, Architect, Denver, Col. Rogers & Ashton, Contractors.
7,500 square feet of LIVING-STONE bonded concrete floors.

IT is well known that new Portland Cement will not adhere permanently to old concrete. It will firmly unite brick, stone or unglazed tiles to each other, but it will not effect perfect cohesion with concrete that has "set." The dinner hour on a very hot day is sufficient to permit crystallization, and work renewed afterward is quite distinct and separate from that of the forenoon. Ordinary grouting will not always produce the required chemical union. Roughening the old surface does not change its crystallized character, and is an expensive operation. There are two ways to build a perfect monolithic concrete structure. One way is to continue the work without stopping for dinner, supper or sleep. The other method is to use Living-Stone Concrete Bond to join the new concrete to that which has already been placed.

Always had good service.

Results as guaranteed.

WORDEN-ALLEN COMPANY
Commercial National Bank Building
Chicago, Ill.

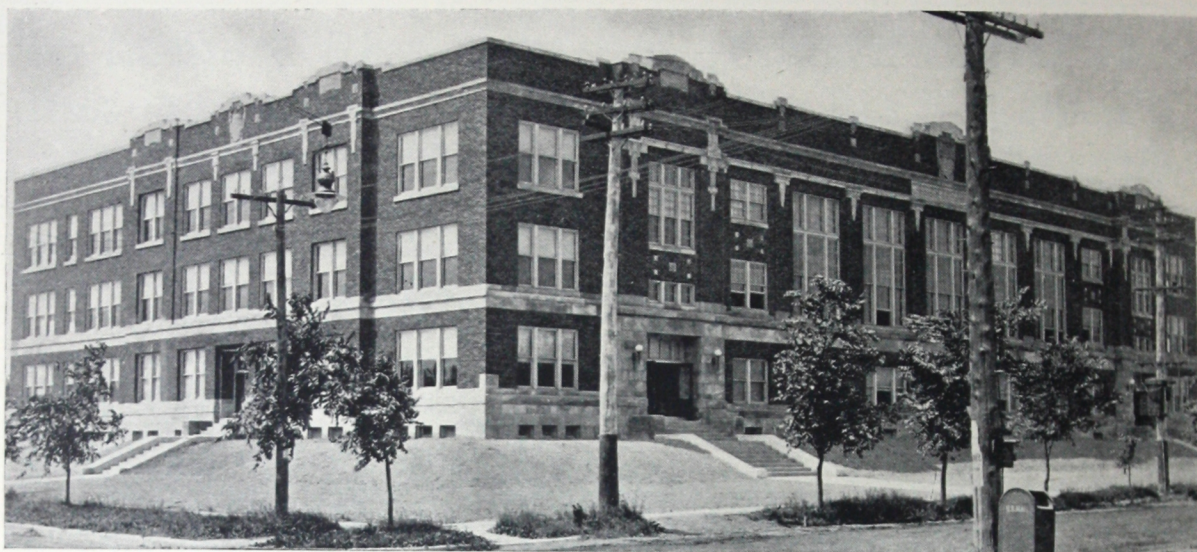
Acknowledging yours relative to Living-Stone Cement Bond.

We have always had good service in using this material, have used it quite extensively, and have found that the results were as guaranteed by the manufacturer.

Very truly yours,
WORDEN-ALLEN COMPANY.

CONTAINS NO ACID

10 88-B9911 TCF



High School, Sault Ste. Marie, Mich. John D. Chubb, Architect, Chicago. L. E. Chaussee, Contractor.
20,400 square feet of LIVING-STONE bonded concrete floors.

**Acids are Destructive to the Lime
in Cement, and should not
be used on Concrete.**

acids, or preparations containing them, but this practice cannot be too strongly condemned, as the destructive properties of Muriatic and Sulphuric acids are well known.

The action of these acids on the lime in cement produces a porous, spongy surface of no strength, therefore, it is futile to expect a bond between a concrete floor base and a cement or granolithic top finish. Living-Stone is the only means of producing an absolute bond.

**Corroding Acids may start Oxi-
dization in Steel Reinforcing
Members.**

porous concrete and start oxidization in reinforcing members needs no demonstration. The acid permeates the concrete and the effect of the application cannot be removed by washing with water.

Living-Stone contains no Muriatic nor Sulphuric acids. Many contractors to clean and disintegrate the surface that has already set, so that the new work will bond, make use of these

When it is considered that the presence of oxidizing factors in cement frequently approach, and even pass, the safety limit, the undesirability of adding corroding acids that may seep through

**Perfect Bond is secured.
No Come-Backs when
LIVING-STONE is used.**

GAGNON & COMPANY
Billings, Mont.

Answering your inquiry in regard to Living-Stone, this material is the best we have found for bonding new concrete to old concrete work.

We believe from actual results that a perfect bond is secured.

We have had no "come backs" where Living-Stone has been used.

Yours truly,
GAGNON & COMPANY.

CONTAINS NO ACID

LIVING-STONE



Grand Avenue Viaduct, Milwaukee. Sterling Engineering Company, Contractors.
100,000 square feet of LIVING-STONE bonded concrete.

ROBERTS AND SCHAEFFER COMPANY

Engineers and Contractors

McCormick Building
Chicago, Ill.

We note your letter regarding Living-Stone Concrete Bond, and would say that we have used this material quite extensively for the past five or six years for bonding thin layers of concrete to the main body.

We build a great many reinforced concrete coal pockets in which we have a 1 inch or 2 inch wearing surface of one to one mortar over a reinforced concrete floor. It is impossible to put in this thin layer at the same time the floor goes in, but by using the Living-Stone bond we have been able to bond the two surfaces absolutely.

We have also used this in bonding a wearing surface to the cement floors in miners' bath houses, and other similar structures.

Our experience has been that it makes an absolute bond between old and new concrete, and has answered our purposes very well.

Yours very truly,

ROBERTS AND SCHAEFER COMPANY,
E. E. Barrett, Vice-President.

HALL-CURRY CONSTRUCTION COMPANY

Board of Trade Building
Indianapolis, Ind.

Replying to your recent letter regarding our use of Living-Stone Concrete Bond, we wish to advise that in 1911 we used this bond on about 15,000 square feet of floor surface. As far as our information goes, this floor finish has been entirely satisfactory and there have been no evidences of any failure of the finish to adhere to the base concrete. Further, the most of this floor was placed in very cold weather, which should be an additional recommendation for the use of the bond.

Very truly yours,

JEH/B

J. E. HALL, President.



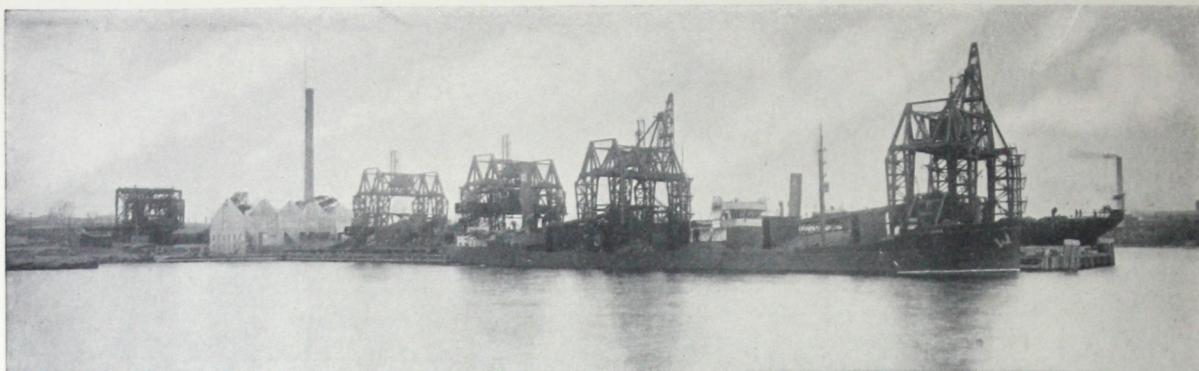
Illinois Central Railroad Coaling Plant, Effingham, Ill.

Designed and built by the Roberts & Schaefer Co.,
Chicago, Ill.

Top finish of pockets bonded with LIVING-STONE.

CONTAINS NO ACID

LIVING-STONE



Baltimore & Ohio Coal Pier, Baltimore, Md. Largest export coal pier in the world. Capacity, 7000 tons per hour. Cost \$2,500,000. 7,500 square feet of LIVING-STONE bonded concrete.

LIVING-STONE used with
excellent results.

THE BALTIMORE & OHIO RAILROAD COMPANY
Engineers' Department
Baltimore, Md.

Referring to yours relative to Living-Stone Concrete Bond, we have used this a number of times and find it excellent in bonding two pieces of concrete together, or bonding any new and old concrete.

Yours truly,
M. A. LONG,
Assistant to Chief Engineer.



Note the Open Crack in This Machine Base

It could have been prevented with

LIVING - STONE

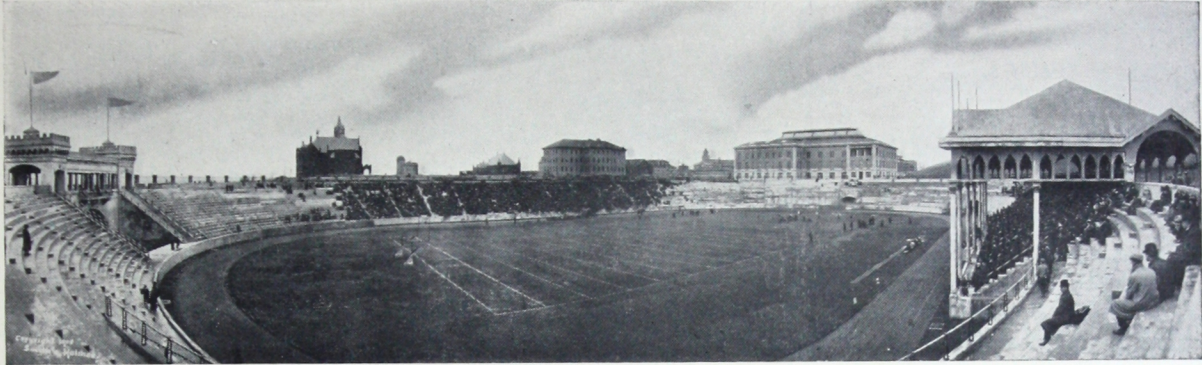
at a cost of about one cent per square foot.

Every owner will agree that this is a small premium for insurance of this kind.

This open crack between the two pourings is causing a terrific grind on the machine bearings. The entire top of this base is loose.

Which is cheaper—a permanent joint at one cent a square foot, or shutting down for replacement, and loss of time at a cost of hundreds of dollars ?

CONTAINS NO ACID



Stadium, University of Syracuse, New York.
Designed by Architectural Department of the University. Contractors, Revels & Hollenbeck.

**Reasons why top finish should
not be placed when concrete
base is poured.**

until the concrete is hard enough to walk on, and this concrete being soft and uneven in composition will settle and leave low places in the top finish.

If weather is rainy or freezing it is possible to pour the concrete and protect it, but it may not be possible to place the finish top and protect it. The newly placed finish must be at once covered with sand or some other covering to protect it from the work that is to follow; such as the dropping of pipes, partition centering and tile; spaces occupied by scaffolding must be patched in afterward. There are many other disadvantages that will occur to the Architect and Engineer.

Living-Stone makes a perfect bond between new top finish and old base, and the advantages of placing the top finish after building is closed in may be summarized as follows: The concrete base can be tested for specified floor loads, sufficient time has elapsed and any imperfect concrete in base can be replaced. The floor level is fixed and can be depended on to remain as found. Shrinkage cracks that have developed in base can be detected and filled. The top finish can be placed independent of the weather and proceed uninterruptedly. There will be no disfiguring patching to be done, nor floors scarred by previous work. By placing top finish near time of completion of building you get a better job and save money.

THE PARAGON PLASTER CO.
Syracuse, N. Y.

Replying to your favor of the 13th, we would advise that we have been selling Living-Stone Concrete Bond for eight or nine years and always with the very best of success.

Our largest job was the Syracuse Stadium for the finish concrete was put on some months after the rough work had been done. Tests on this work showed that it was impossible to cause a fracture to the bond, the fracture to the concrete invariably coming at some other point. It is the only material that we know of which solves the problem of bonding old and new concrete.

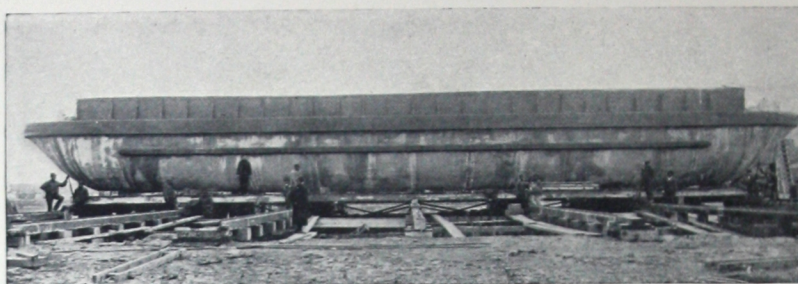
Very truly yours,
THE PARAGON PLASTER CO.

**Tests showed it was impossible
to cause fracture of bond.**

CONTAINS NO ACID

LIVING-STONE BONDED CONCRETE

Built in 1913. Up to August, 1919, had never had a pump in her.



The Chesapeake Concrete Barge Co. built the barge shown above in 1913. It has $3\frac{1}{2}$ in. walls under 9 ft. head of water and 4 in. bottom with upward pressure on bottom exceeding 500 pounds per square foot. Not a joint has leaked.

LIVING-STONE SPECIFICATION—for producing perfect cohesion between yesterday's work and today's.

Living-Stone does not require expert workmen to prepare it; any ordinary laborer can attend to the mixing. Take a clean barrel, fill it with hot water to a height of 20 or 40 gallons; mark the barrel at each of these heights as a gauge for the mixer. Living-Stone is then poured into the barrel in the proportion of one gallon of Living-Stone to twenty gallons of hot water, and this solution is mixed with any brand of tested Portland cement; the mortar thus obtained should be of the consistency to flow sloppy from the trowel, and is spread on the surface to be bonded to the thickness of $\frac{1}{4}$ inch, and the new work must follow immediately. One gallon is sufficient for 250 to 300 square feet.

The Living-Stone Concrete Bond shall be brought to the building in the original container, and applied in accordance with the manufacturers' directions.

The contractor before proceeding with the laying of the cement, granolithic, concrete hardener top finish, or tiles, shall first thoroughly clean the surface of dirt, dust, oil, paint and grease. Soak the surface well with clean water and then apply a bond coat of Living-Stone $\frac{1}{4}$ inch thick, and immediately follow with the top finish or new work.

SPECIFICATION

For patching concrete floors that are worn in spots.

Chip out the area to be patched to the depth of at least three-quarters of an inch. Chip the edges of the hole down as straight as possible. Remove all chips and dust, and wash the hole with clean water. Allow the water to stand in hole until it is thoroughly soaked. It is then ready for the Living-Stone bond. Mix the bond as directed, and spread it in the hole one-quarter of an inch thick. Follow immediately with the top finish. The new finish should be of the same mix as the original topping. Do not use hardener in patch or it will wear uneven.

LIVING-STONE patches those worn spots when all other methods have failed.

NEWTON ENGINEERING COMPANY Milwaukee, Wis.

When properly used, old surface clean, no grease, oil, dust or loose or soft sandy spots, we know it will bond new finish to floors or walls perfectly.

We have used it for nine years, and have patched work where all other methods have failed.

Floor must be clean and sound, thoroughly wet, the bond used just ahead of the finish, and finish applied immediately.

We invariably lay our finish afterwards by its use.

Saves fresh floors being marred by mason work, etc.

Yours very truly,

NEWTON ENGINEERING COMPANY.

CONTAINS NO ACID

H. HARIG & CO.
Contractors and Builders
Cincinnati, Ohio

Replying to your letter of the 17th inst. will state that we have used this material considerably, and in every case has given us entire satisfaction.

Respectfully,
H. HARIG & CO.

LIVING-STONE Should Be Used If The Concrete Cannot Be Poured Continuously Until the Job Is Completed.

Floor Finish—Living-Stone is the only means of bonding granolithic, or concrete hardener top finish or tile to concrete floors.

Exterior Finish—Stippling over Living-Stone makes the best finish.

Repairs and Weather Proofing—Grouting made of Living-Stone for filling joints and cracks caused by expansion and contraction produces a perfect joint.

Bridges, Dams and Chimneys—It has too often been demonstrated by the lines of cleavage in wrecked structures of this class that unbonded concrete is not monolithic. Living-Stone must be used if monolithic work is desired.

Concrete Blocks—Concrete block buildings sometimes show signs of disintegration; Living-Stone affords a means of refacing the better work of this class.

Reservoirs and Swimming Pools—In structures of this kind Living-Stone is indispensable; it makes impermeable joints.

The Expense Of Using LIVING-STONE Is Negligible in Any Work.

The cost of Living-Stone is so little that the only excuse that can be advanced for not insuring perfect bonding in concrete work is that somebody is willing to "take chances." One gallon is ample for an area of 250 to 300 square feet, making the cost about 1 cent per square foot.

Full instructions for use are sent and they must not be deviated from.

Price List.

1 to 5 gal. \$3.00 per gallon
5 ~~gal.~~ gal. ~~and over~~ *hams* 2.75 per gallon
Bbls., 50 gal. 2.50 per gallon

F. O. B. Cars, Baltimore, Md.

Terms: Net Cash.

Living-Stone is put up in 1 and 5 gallon cans. It will keep indefinitely if kept sealed.

For quantities of 5 gallons or less, cash must be sent with orders.

If ordered in one (1) gallon cans, 1 to 5 gallon price will be charged regardless of quantity ordered.

Always state whether shipments are to be made by express or freight.

Orders of 10 gallons and less will be shipped by express unless specific instructions are received to ship by freight.

State name of Express Company or Railroad by which shipments are preferred.

GILSONITE CONSTRUCTION COMPANY
General Contractors
St. Louis, Mo.

Replying to your letter of the 15th inst., would say we have used the Living-Stone Concrete Bond extensively in our business, and found it fulfills every claim made by the company.

Yours very truly,
GILSONITE CONSTRUCTION COMPANY.

LITHOTEX

LITHOTEX: Is a colorless, liquid, chemical compound which prevents and stops disintegration of concrete floors.

Changes a soft, porous wearing surface to a flint-like hardness. Lithotex is inexpensive, one gallon will cover 100 square feet, three applications at a cost of 2 cents per square foot.

LITHOTEX APPLIED AT NIGHT BY YOUR MEN AFTER THE DAY'S WORK IS DONE. THERE IS NO STOPPAGE OF TRUCKING OR LOST TIME BY EMPLOYEES.

Lithotex is highly concentrated — one gallon will cover 100 square feet, 3 coats.

PRICE LIST

Bbls., 50 gal., net per gal. \$1.50
Half bbls., 30-35 gals., per
per gal. 1.60
5 gal cans, net per gal. 1.75
1 gal. cans, net per gal. 2.00

Terms: Net Cash.
F. O. B. cars Baltimore.

Thousands of square feet of concrete floors have been laid by owners who did not realize the dollars and cents saving in making the top finish wear-proof and dust-proof by using Lithotex Concrete Floor Hardener when floor was laid.

Unless a concrete floor is top finished with Lithotex hardener, it will sooner or later give trouble. When floors laid with a cement and sand top finish begin to dust and wear in spots and show a granular surface, trouble has started, and the sooner it is checked the less expense they will cause later.

At the first sign of disintegration Lithotex should be applied; if you wait until a hole is worn, the top must be cut out and a patch inserted.

DIRECTIONS FOR APPLYING LITHOTEX

Lithotex shall be brought to building in original containers and applied according to manufacturers' directions.

Wash the floor thoroughly with clean water, scrubbing with a stiff broom or scrubbing brush, removing all dirt and loose particles, and allow the surface to dry.

Dissolve one (1) gallon of Lithotex into three (3) or four (4) gallons of clean water, depending on porosity and condition of top finish. Stir the mixture thoroughly and apply it with a brush. A long handled whitewash brush will be found satisfactory. After applying mixture allow the surface thus treated to dry; as soon as dry, wash off with clean water, using a mop. Make two more applications 24 hours apart, allowing the surface to dry between each application, and mop off as before. Three applications will be all that is necessary. After the last application any of the Lithotex that remains on the surface can be readily washed off, and the pores in the concrete will be found to have been filled up, leaving a hard flint-like surface.

CONTAINS NO ACID

Millions of square feet of LIVING-STONE bonded concrete floors are in service throughout the United States, Canada and Great Britain.

Some Representative Living-Stone Users:

CONTRACTORS

Roland Park Company, Baltimore.
National Fireproofing Co., Baltimore.
Edward Brady & Son, Baltimore.
Elkan-Tufts Con. Co., Baltimore.
Zinn Bros., Baltimore.
J. H. Pymer, Baltimore.
Chesapeake Concrete Barge Co., Baltimore.
J. Hy. Miller, Inc., Baltimore.
Cramp & Company, Philadelphia.
Geo. A. Fuller & Co., New York.
Wells Bros. Co., Chicago.
Roberts-Schaefer Co., Chicago.
American 3-Way Prism Co., Chicago.
Worden-Allen Co., Chicago.
C. A. Moses Constr. Co., Chicago.
Murch Bros. Constr. Co., St. Louis.
J. V. Boland Co., St. Louis.
Gilsonite Constr. Co., St. Louis.
Newton Engineering Co., Milwaukee.
Sterling Eng. and Constr. Co., Milwaukee.
G. L. Fenzel, Athens, Ohio.
Hall-Curry Con. Company, Indianapolis.
Campbell & O'Keefe, Oklahoma City.
W. D. Lovell, Minneapolis.
Scott Bros., Concordia, Kan.
Spokane Concrete Constr. Co., Spokane.
Gagnon & Co., Billings, Mont.
V. Jobst & Sons, Peoria, Ill.
A. M. Walkup, Richmond, Va.
Foy-Proctor Co., Nashville, Tenn.
Stone & Webster Eng. Corp., New York.
Fred T. Ley & Co., Springfield.

**Only method known where
absolute bond can be ob-
tained.**

RAILROADS

New York Central Lines.
Pennsylvania Lines.
Western Maryland R. R.
Canadian Pacific Ry.
Union Pacific R. R.
Denver & Rio Grande R. R.
Big Four R. R.
Baltimore & Ohio R. R.
Chicago, Milwaukee & St. Paul Ry.
Chicago Great Western R. R.
Long Island R. R.
Atchison, Topeka & Santa Fe Ry.
Southern Kansas Railway of Texas.
Chicago & East Illinois.
Pere Marquette.
Carolina, Clinchfield & Ohio.
Seaboard Air Line.
Chicago, Rock Island & Pacific.
Havana Central Railroad Co., Cuba.
White Pass & Yukon Route, Alaska.
Detroit United Railways.
West Penn Railways.
Wabash, Pittsburgh Terminal R. R. Co.
Salt Lake & Ogden Ry. Co.
Detroit, Toledo and Ironton R. R.

SCOTT BROS. General Contractors Horton, Kansas

Referring to your letter of December 17th, 1915, relative to Living-Stone Cement; we have used this very extensively and find it very satisfactory; in fact, the only method we know of where absolute security of bond can be obtained.

We have used it on reinforced concrete where topping was not applied for more than four months after pouring of base, and under rigid inspection there was found to be less than 2 square feet of surface that had not perfectly adhered, and this was accounted for by the fact that the weather was extremely hot and out topping was not properly protected.

We highly recommend this material.

Very respectfully,

SCOTT BROS.

CONTAINS NO ACID

VIADUCTS

Grand Ave. Viaduct, Milwaukee.
Ludlow Ave. Viaduct, Cincinnati.

STADIUMS

University Syracuse, Syracuse, N. Y.
White Sox Baseball, Chicago.
University of Michigan, Ann Arbor.
Cornell University, Ithaca, N. Y.

COURT HOUSES

Bighorn County Court House, Basin, Wyo.
Yavapai County Court House, Prescott, Ariz.

TELEPHONE EXCHANGES

Ohio State Telephone Building, Columbus, Ohio.
Dakota Central Telephone Building, Aberdeen, S. D.

MISCELLANEOUS.

International Harvester Company, Chicago.
Montgomery Ward & Co. Building, Chicago.
Butler Building, Chicago.
Industrial Works, Bay City, Mich.
National Fireproofing Co., Pittsburgh.
Heller Bros. Company, Youngstown, Ohio.
Paragon Plaster Company, Syracuse, N. Y.
Proctor & Gamble, Ivorydale, Ohio.
P. A. Sorg Paper Company, Middletown, Ohio.
Welch Grape Juice Company, Westfield, N. Y.
State Normal School, Stevens Point, Wis.
Leavenworth Bridge Company, Leavenworth, Kans.
Carnegie Steel Company, Pittsburgh, Pa.
Fairbanks, Morse & Co., Chicago.
Consolidation Coal Co., Fairmont, W. Va.
Park Hotel Building, Great Falls, Mont.
City of Bay City, Bay City, Mich.

Niagara Falls Power Co., Niagara Falls, N. Y.
City of Albuquerque, Albuquerque, New Mexico.
Branch Hospital, Cincinnati, Ohio.
Maxwell Irrigated Land Co., Maxwell, New Mexico.
German-American Sugar Co., Paulding, Ohio.
Reid Newfoundland Company, St. John's, N. F.
J. S. Rogers Company, Moorestown, N. J.
Krebs Pigment & Chemical Co., Newport, Del.
Edison Illuminating Company, Detroit.
Armour & Company, Chicago.
Public Library Building, Bismarck, N. D.
Yellowstone Packing Co.'s Plant, Billings, Mont.
Lake Linden High School, Lake Linden, Mich.
Filter Plant, Bethlehem Water Co., Bethlehem, Pa.
Deaf & Dumb Asylum, Santa Fe, New Mexico.
Schoellkopf Memorial Building, Ithaca, N. Y.
High School Building, Sault Ste Marie, Mich.

GREAT BRITAIN

Malta Fortifications, Isle of Malta.
Jersey Fortifications, Isle of Jersey.
Northeastern Railway, York, England.
Waterworks, Southampton, England.

U. S. GOVERNMENT

U. S. Eng. Corps, Cincinnati, Ohio.
U. S. Eng. Corps, Conneaut Harbor, Ohio.
U. S. Eng. Corps, Portland, Me.
U. S. Eng. Corps, Portland, Ore.
U. S. Eng. Corps, Seattle, Wash.
U. S. Eng. Corps, New York, N. Y.
U. S. Eng. Corps, Fort Yellowstone, Wyo.
U. S. Eng. Corps, Fort Screven, Savannah, Ga.
U. S. Eng. Corps, Fort Huachuca, Ariz.
U. S. Naval Academy, Annapolis, Md.
U. S. Navy Yard, Portsmouth, Va.
U. S. Panama Canal, Colon, Isthmus of Panama.



